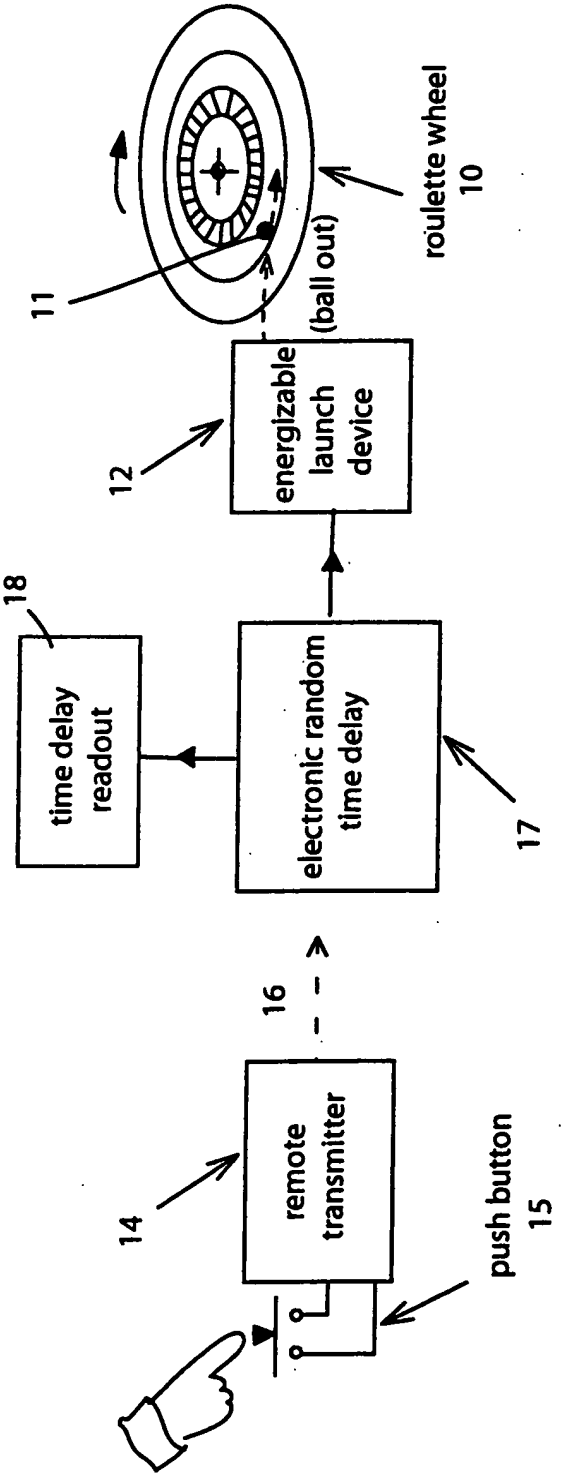
roulette wheel
10
11
(ball out)
energizable
launch
device
12
time delay
readout
18
electronic random
time delay
17
16
remote
transmitter
14
push button
15

Figure 1

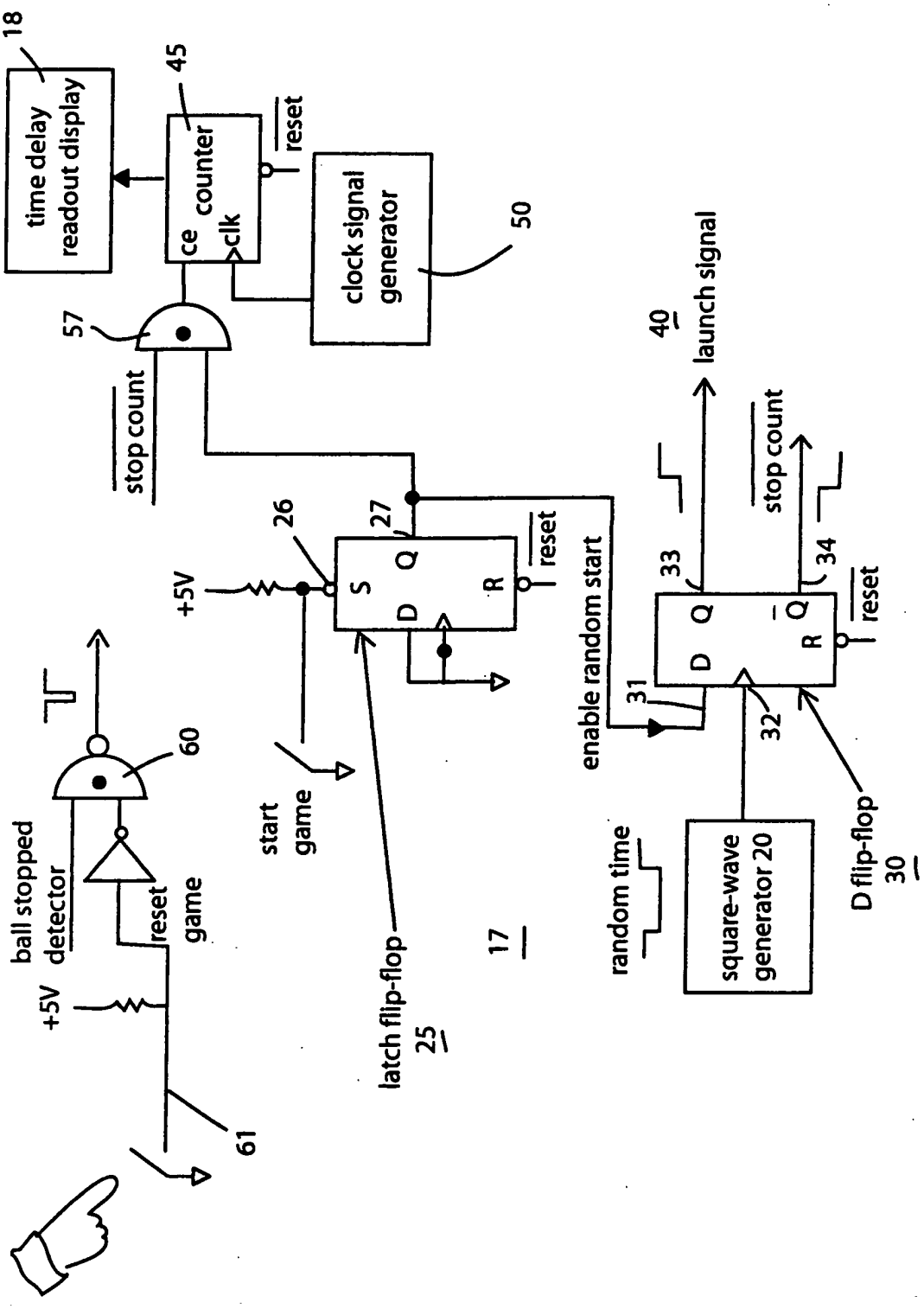
18
time delay readout display
45
ce counter clk
reset
clock signal generator
50
57
stop count
26
27
+5V
S Q
D
R
reset
start game
latch flip-flop
25
17
ball stopped detector
+5V
reset
game
60
61
enable random start
40
launch signal
33
stop count
34
31
32
D Q
Q
R
reset
random time
square-wave generator 20
D flip-flop
30

Figure 2 (a)

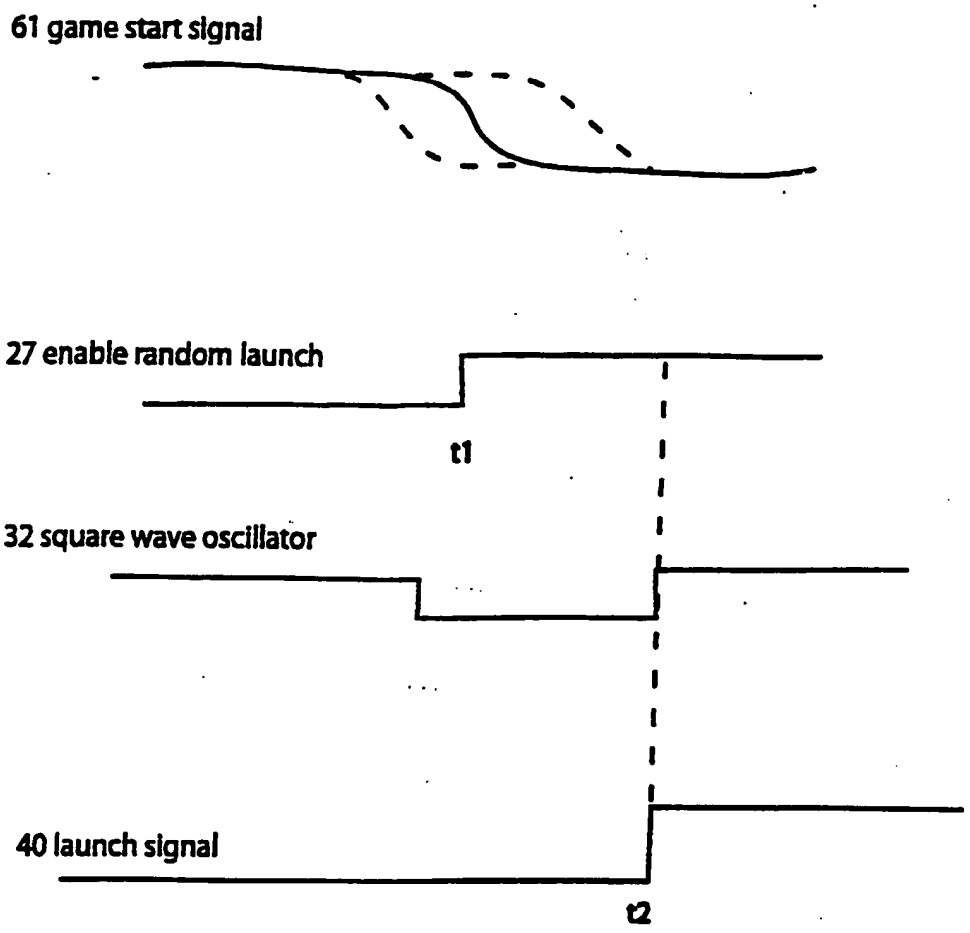
61 game start signal
27 enable random launch
t1
32 square wave oscillator
40 launch signal
t2

Figure 2 (b)

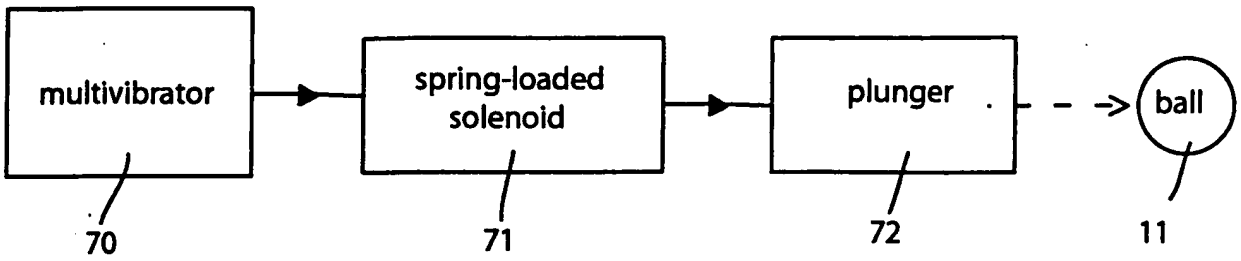

Figure 3 (a)

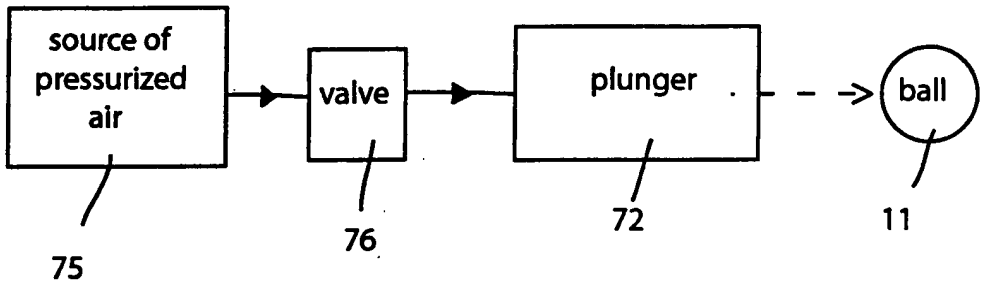

Figure 3 (b)

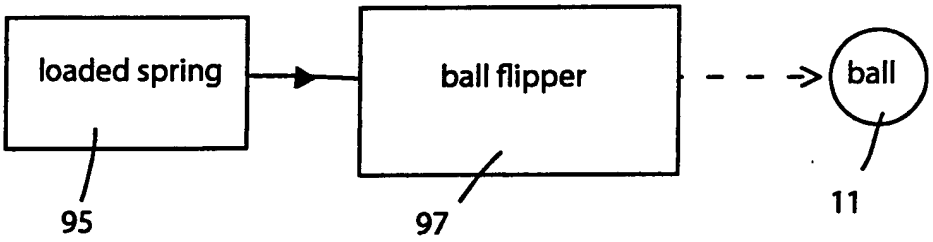

Figure 3 (c)

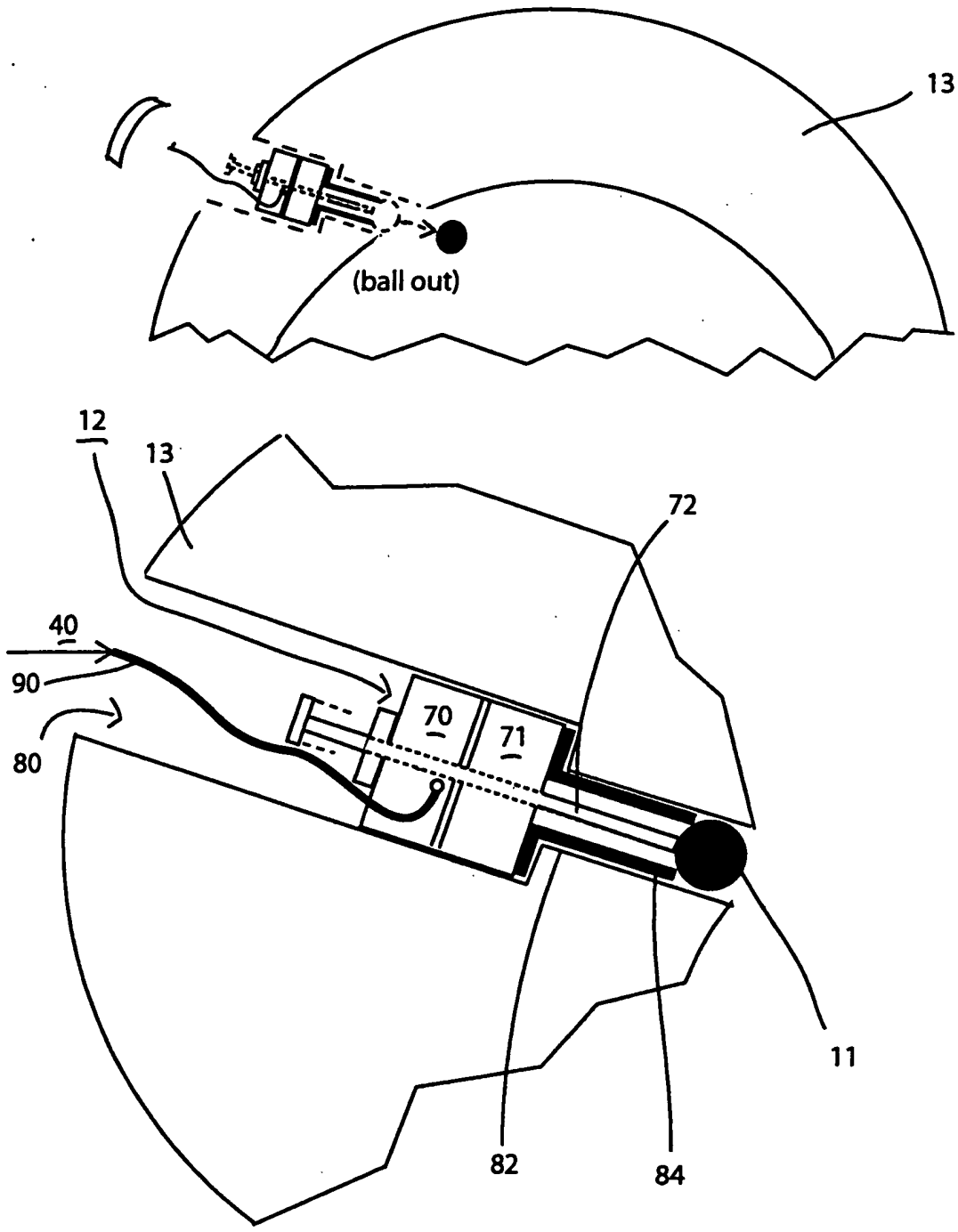

Figure 4

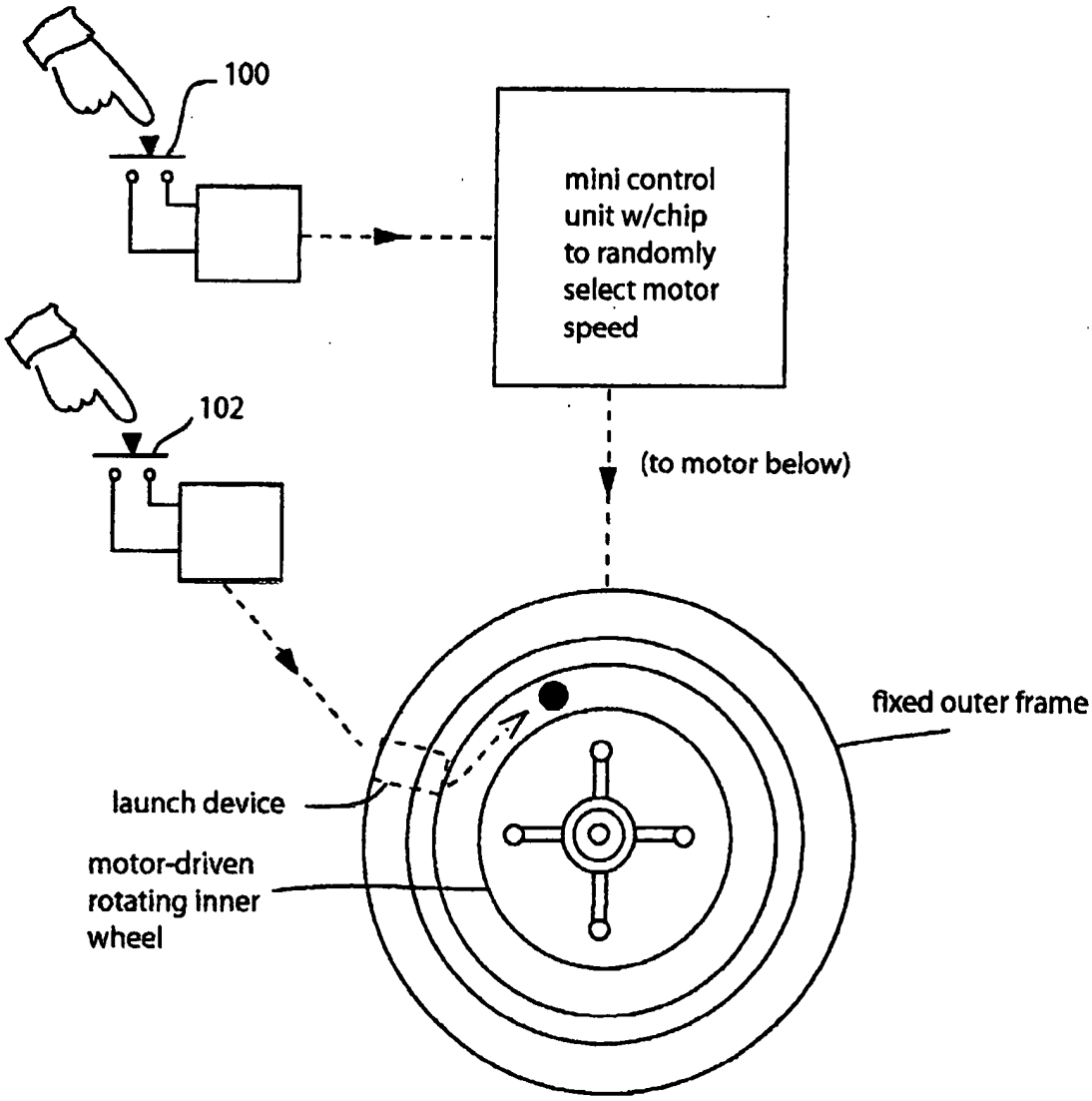
100
mini control unit w/chip to randomly select motor speed
102
(to motor below)
fixed outer frame
launch device
motor-driven rotating inner wheel

Figure 5

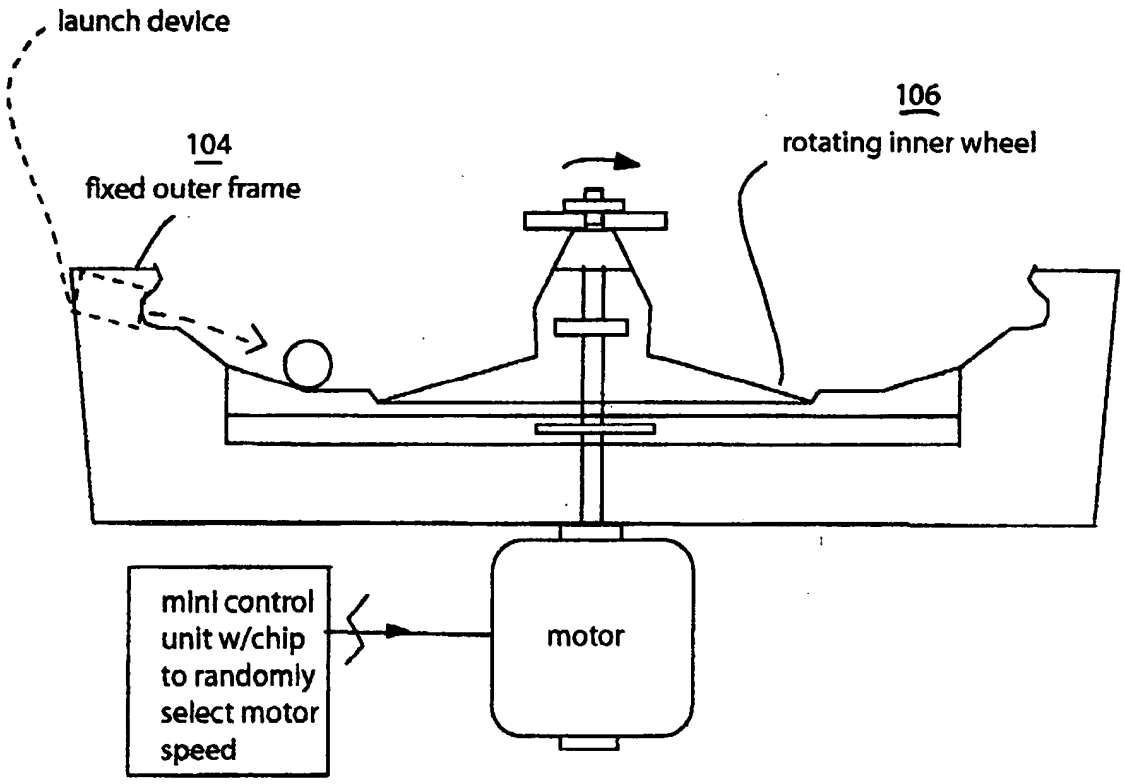
launch device
104
fixed outer frame
106
rotating inner wheel
mini control unit w/chip to randomly select motor speed
motor

Figure 6

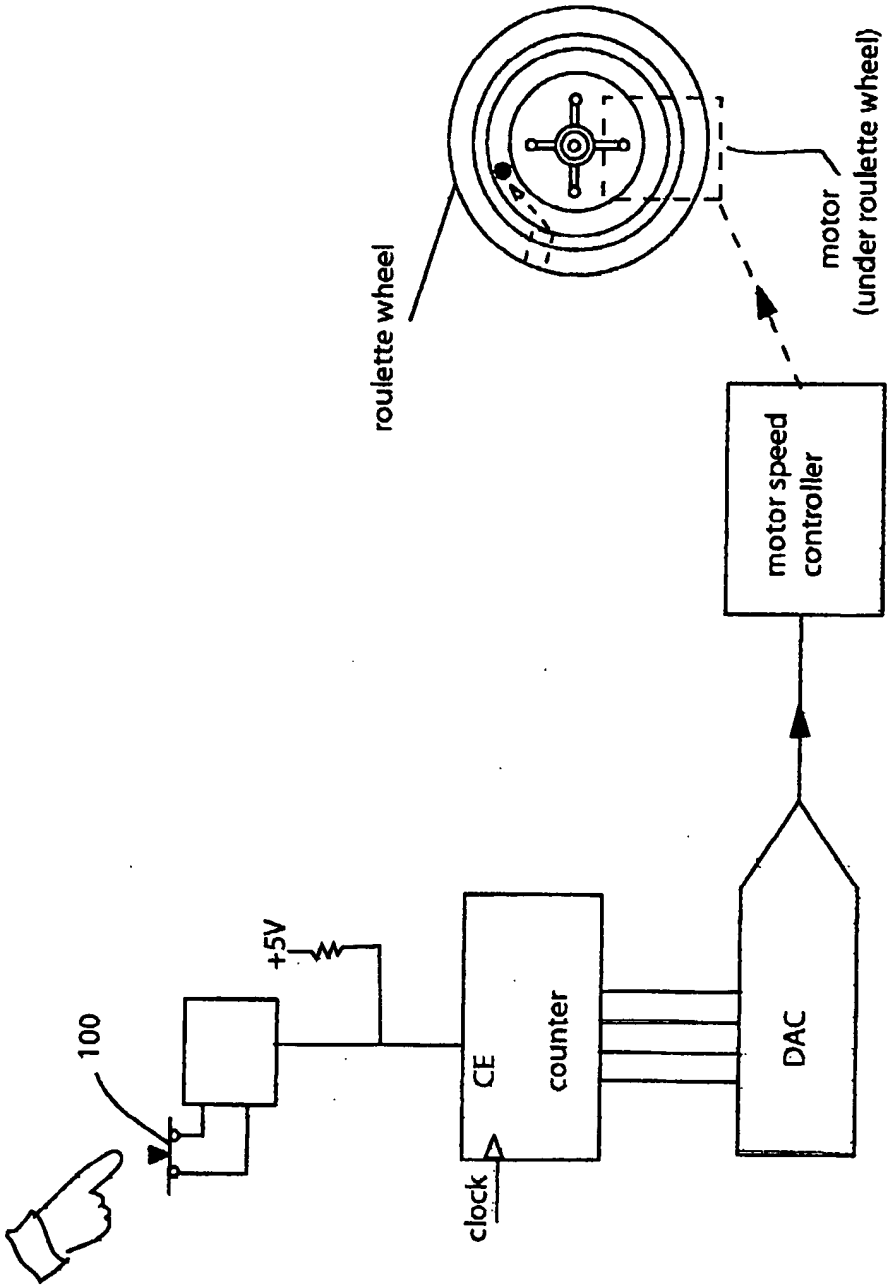
roulette wheel
motor
(under roulette wheel)
motor speed
controller
DAC
counter
CE
clock
+5V
100

Figure 7

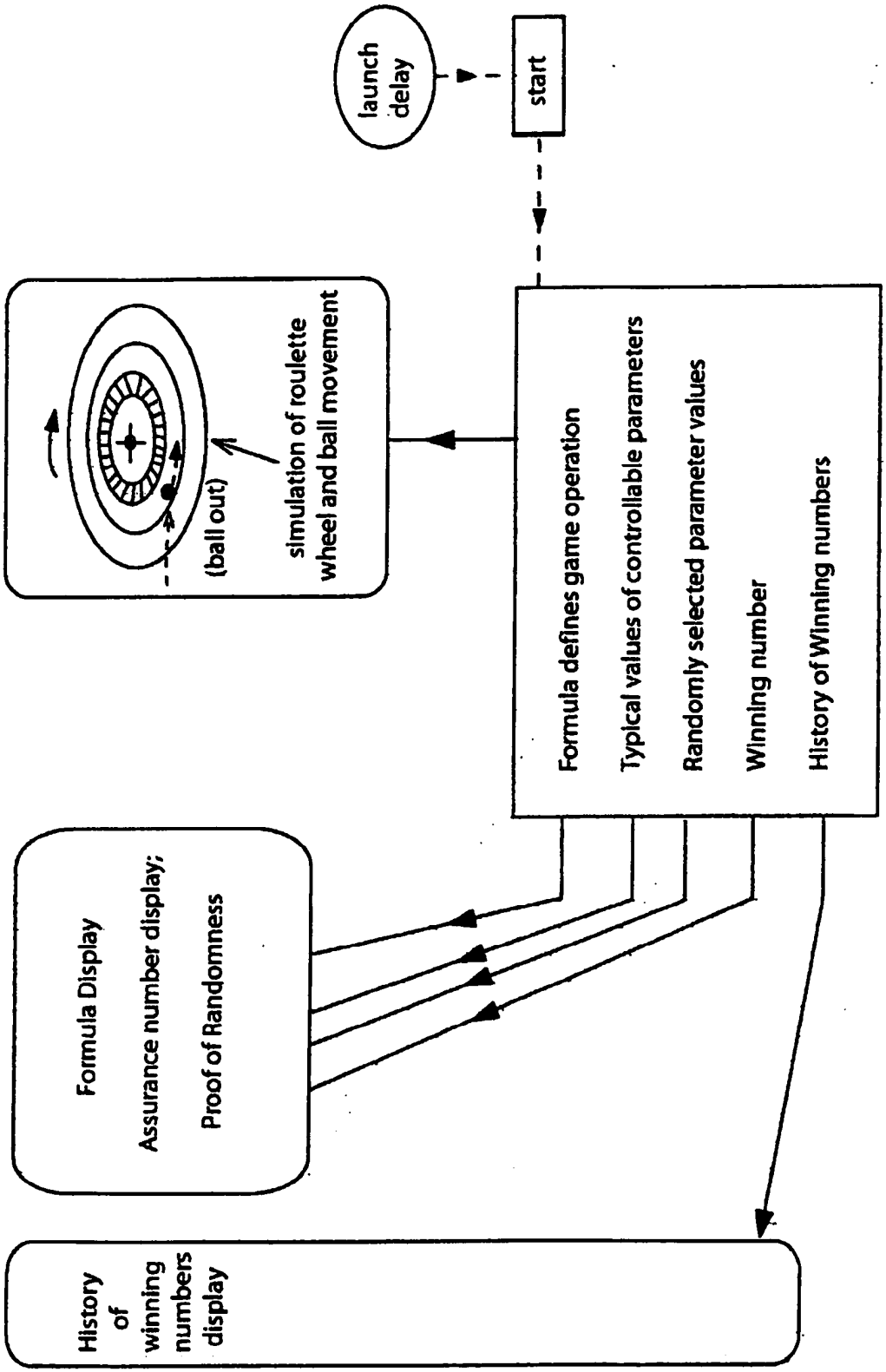
launch delay
start
(ball out)
simulation of roulette wheel and ball movement
Formula defines game operation
Typical values of controllable parameters
Randomly selected parameter values
Winning number
History of Winning numbers
Formula Display
Assurance number display;
Proof of Randomness
History of winning numbers display

Figure 8

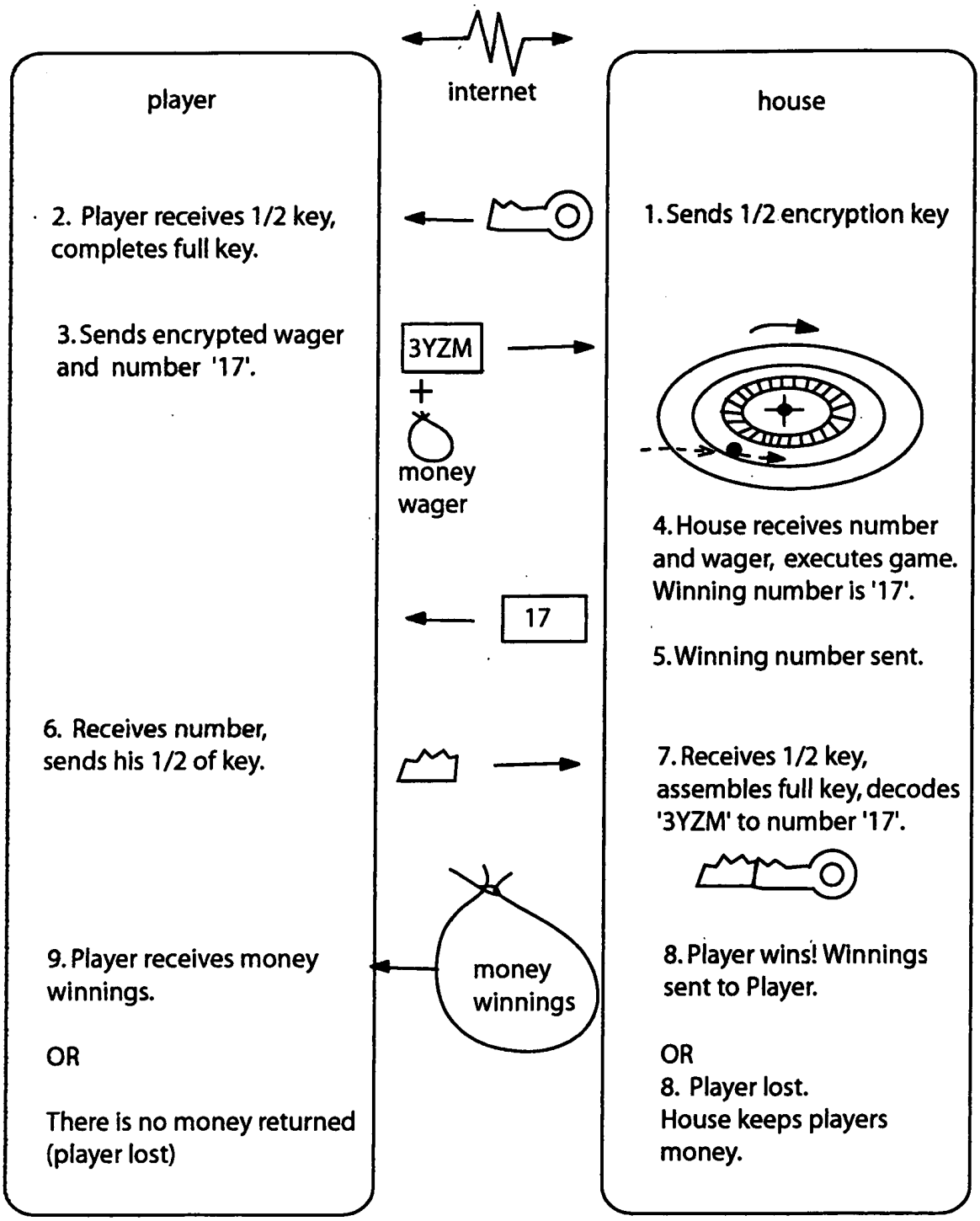
player
internet
house
2. Player receives 1/2 key, completes full key.
1. Sends 1/2 encryption key
3. Sends encrypted wager and number '17'.
3YZM
+
money wager
4. House receives number and wager, executes game. Winning number is '17'.
17
5. Winning number sent.
6. Receives number, sends his 1/2 of key.
7. Receives 1/2 key, assembles full key, decodes '3YZM' to number '17'.
9. Player receives money winnings.
money winnings
8. Player wins! Winnings sent to Player.
OR
There is no money returned (player lost)
OR
8. Player lost.
House keeps players money.

Figure 9